

01-SM5-423
(ATI-0008-P)

REMARKS

Claims 1-36 were pending in the present application. Claims 1, 14, and 25 have been amended. No new matter has been entered because of these amendments. For example, support for the amendment of Claims 1, 14, and 25 can be found in Figure 4.

Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. §112, second paragraph

Claims 1 and 25 stand rejected under 35 U.S.C. §112, second paragraph as allegedly incomplete for omitting essential structural cooperative relationships of elements. The omitted structural cooperative relationships are purportedly a power source such as AC or DC power sources. Applicants respectfully traverse.

Claim 1 is directed to a plasma tube. A power source is not an essential structural cooperative relationship for the claimed plasma tube. The at least one conductive fiber as claimed is free from connection to a voltage power source.

Likewise, Claim 25 is directed to a process for reducing the electric field breakdown point of a gas. The process comprises securing a conductive fiber to a surface of a plasma tube, wherein the plasma tube comprises an open ended cylindrical body, wherein the body includes a gas inlet at one end, an outlet at an other end, and at least one conductive fiber in contact with the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source; flowing a gas into the gas inlet of the plasma tube; applying an electric field to the gas flowing in the plasma tube to form a plasma; and discharging the plasma from the outlet of the plasma tube. No power source is required to be connected to the conductive fibers since an electric field is applied to the gas to form the plasma. A voltage power source is not connected to the conductive fiber to form the plasma.

Accordingly, since the at least one conductive fiber as claimed is free from connection

01-SM5-423
(ATI-0008-P)

to a voltage power source, no essential structural cooperative relationships of elements have been omitted from either Claim 1 or Claim 25. For at least these reasons, the rejection should be withdrawn.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 1, 3-4, 9, 11, 14, 16-17, 19-20, 25-26, and 28 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 4,922,099 to Masuda et al. (hereinafter "Masuda"). Applicants respectfully traverse.

Independent Claims 1, 14, and 25 feature, *inter alia*, at least one conductive fiber that is free from connection to a voltage power source.

To anticipate a claim under 35 U.S.C. §102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988).

Masuda teaches applying a voltage power source to the electrodes to create an electric field. Masuda does not teach electrodes free from a voltage power source since Masuda is directed to electric field devices. Applicants' independent claims feature, *inter alia*, at least one conductive fiber that is free from connection to a voltage power source.

As all elements of independent Claims 1, 14, and 25 have not been disclosed, these claims are patentable over the cited reference. Given that Claims 3-4, 9, 11, 16-17, 19-20, 26, and 28 each further limit and ultimately depend from one of these independent claims, they too are patentable.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 2, 5-8, 10, 12-13, 15, 18, 20-24, 27, and 29-36 stand rejected under 35 U.S.C. §103(a), as allegedly unpatentable by U.S. Patent No. 4,922,099 to Collins et al. (hereinafter "Collins"). Applicants respectfully traverse these rejections.

01-SM5-423
(ATTI-0008-P)

Masuda is directed to various types of electric field devices. In each type of electric field device taught and suggested by Masuda, electrodes are disposed on or within a dielectric substrate. An AC or DC high voltage source is applied between the electrodes to produce a gaseous discharge, an electromechanical phenomena, or the like.

Applicants assert that a prima facie case of obviousness has not been made against Claims 2, 5-8, 10, 12-13, 15, 18, 20-24, 27, and 29-36. Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). A prima facie case has not been established because the cited reference does not teach or suggest at least one conductive fiber secured to the body and positioned to enhance an applied electric field, wherein the at least one conductive fiber is free from a connection to a voltage power source.

Masuda requires a voltage source connected to the electrodes for its invention to function as intended i.e., as an electric field device. For example, as shown in Figures 19-22, a high voltage AC power source (Ref. No. 70) is shown connected to the electrodes. At Column 15, Masuda teaches applying a u-phase voltage, a v-phase voltage, and a w-phase voltage from a three phase high voltage AC source to annular three phase electrodes (Ref. Nos. 97, 98, 99, 97a, 98a, 99a) by way of terminal conductors (Ref. Nos. 66, 67, and 68). Masuda does not teach or suggest a conductive fiber free from connection to a voltage power source and positioned to enhance an electric field.

Thus, independent Claims 1, 14, and 25 are patentably distinguished from Masuda since Masuda fails to teach or suggest at least one conductive fiber secured to the body and positioned to enhance an applied electric field, wherein the at least one conductive fiber is free from connection to a voltage power source. Likewise, dependent Claims 5-11, 13, 18-19, and 23-24 are patentably distinguished from Masuda since these claims also include the features recited in the base claim. Accordingly, for at least these reasons, Applicants respectfully request reconsideration and withdrawal of the rejection.

01-SM5-423
(ATI-0008-P)

It is believed that the foregoing remarks fully comply with the Office Action and place the application in condition for immediate allowance, which action is earnestly solicited.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

CANTOR COLBURN LLP

By


Peter R. Hagerty
Registration No.: 42,618

Date: May 30, 2003
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No. 23413